PSM/PTA Asset Management System (PAMS)

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ABSTRACT

Asset management system is a system that manages asset information. The information of the asset is inserting into the system, updating and deleting by the person or group that in charge for the asset management. PSM/PTA Asset Management system (PAMS) is developed to ease the workload. The development process of PAMS is partitioned into phase such as planning, user design, construction and cutover, based on the Rapid Application Development (RAD) methodology. By implementing PAMS, the PSM/PTA asset and borrowing records were able to be dynamically updated and access by all parties at any time. For future enhancements, the notification is sent to the supervisor and technician when the borrow application is sent by student.

ABSTRAK

Sistem pengurusan aset adalah sistem yang mengurus maklumat aset. Maklumat dari aset tersebut dimasukkan ke dalam sistem, dikemaskini dan dipadam oleh individu atau kumpulan yang bertanggungjawab bagi pengurusan aset. PSM/PTA Asset Management system (PAMS) dibangunkan bagi meringankan beban kerja tersebut. Proses pembangunan PAMS adalah dibahagikan kepada fasa seperti perancangan, reka bentuk pengguna, pembinaan dan cantas berdasarkan metodologi Rapid Application Development (RAD). Dengan melaksanakan PAMS, rekod aset PSM / PTA dan rekod pinjaman aset PSM/PTA dapat dikemaskini secara dinamik dan diakses oleh semua pihak pada bila-bila masa. Untuk peningkatan di masa hadapan, pemberitahuan akan dihantar kepada penyelia dan juruteknik melalui emel apabila permohonan peminjaman asset PSM/PTA telah dihantar oleh pelajar.

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PART I

1. Introduction

Asset management system is a system that manages asset information. The information of the asset is inserting into the system, updating and deleting by the person or group that in charge for the asset management.

ProjekSarjanaMuda(PSM) or ProjekTahunAkhir(PTA) students can borrow the asset that provide by the faculty. The assets are like barcode reader, matrix card reader, iphone mobile and other asset that had been provide by faculty. They must fill the form manually and must get the approval from supervisor before send it to the person in charge.

A PSM/PTA asset management system using barcode is a system that manages the information of PSM/PTA asset and borrowing of the asset. First, person in charge fill the information system and the barcode for each asset.

Then, if PSM/PTA students want to borrowing the asset, they fill the online borrowing asset form and will be approve by supervisor and the will send to the person in charge. After that the students and supervisor will be have respond from person in charge about the borrowing by email. The person in charge also can check the asset borrow, the information of the borrower and able to list out the borrower. Other than that, the coordinator also can view all information of this system.

The software will be used to develop this system is Adobe Dreamweaver CS3. The language used is PHP. For the database we will use MySQL, Apache and web server XAMMP. With this system exists, the task of recording the asset and borrowing the asset for PSM and PTA will be more easily and quickly.

1.1. Problem Statement and Objectives

Nowadays, the management of PSM/PTA asset is done manually where the technicians of FSKKP have to fills up respective forms to record the assets. Apart from that, students and PTA/PSM supervisors have to get 'BorangPinjamanPeralatan PSM FSKKP' from the technicians and fill up the form to borrow asset or equipments from faculty and then submit the form to the technicians or PSM/PTA person in charge who will process the request. Therefore a computerized system will built to replace the current system. The system is web-based system to ease the lecturer to make the request or borrowing and technician to process the request.

Other than that, the assets not have a proper tagging and sometime there is some case, that the assets not have tagging. So when the technician need to track the asset it is difficult to do because not all the asset has proper tagging.

Other issue is difficulty to trace the availability of the asset. In inventory, asset tracking is one of the important tasks. With the current system is it difficult to locate the asset since technicians have to refer to certain form and the availability of the asset (status) is difficult to check because the technicians need to go to the cabinet to check the asset availability.

The current system have problem in maintaining the inventory record. With the current system maintaining the inventory record is a tedious task since the technicians have to refer to many forms from different files. Hence lead to inefficient in data management. When the technician need to update the inventory record it is difficult because need to search the file that keep all the forms.

The aim of the project is to develop PSM/PTA Asset Management System. The aim will be supported by 3 objectives. The objectives are:

1) To manage the data using database.
2) To develop the barcode generator for the assets.
3) To generate customize report.

1.2. Previous work/research and relationship to current project

1) MyHome Inventory system (Zamzuna, 2007)

MyHome Inventory system (Zamzuna, 2007) demos the inventory management in business, officeor home as shown in Figure 1.1. It involves the creation of vendor, product, receivinglists and invoices list. MIS system has simple intuitive interfaces involving multi-user and multi-location system. It has its advantage where the admin can set the appearance of invoice, receipt and report. Besides, it can perform backups and restore database by just clicking a button.

It also can import and export information from CSV (comma separated-value) files and Excel. It also has a feature of printing documents and reports, and also can send email from this MIS program. It also conduct a SQL queries of DML such as delete, add new, update and search function.

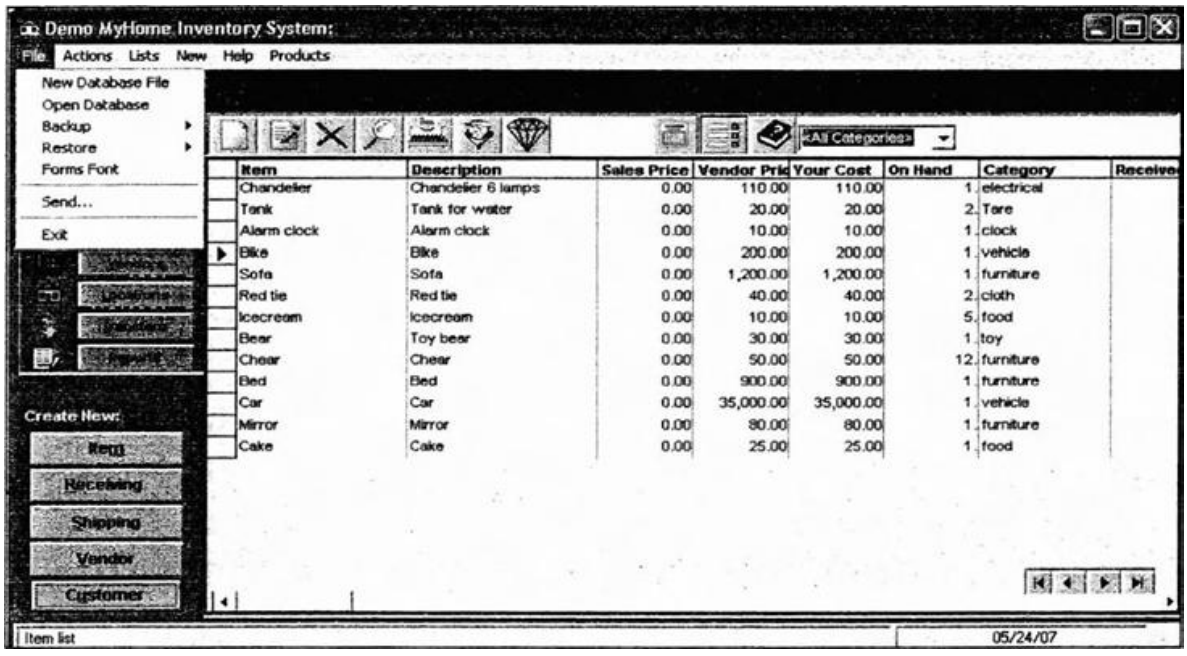

Figure 1:MyHome Inventory System Demo (Zamzuna, 2007)

2) Inventory Execution System (Zamzuna, 2007)

The features and functions in InExSy(Inventory Execution System)(Zamzuna, 2007)are just exactly same as MIS system but there are some advance features added in this InExSy system. For backup and restore database for InExSy system, it is advanced to be saved in Ms Access or Ms SQL.

The database also can be restored in either one of it, and so do the connection according the database used by the admin or developer. Here, there is a login process for admin identified where the admin can change the password from time to time. Through this system, the admin has the authority to grant any privileges tospecified user to avoid them access private and important data as shown in Figure 1.2.

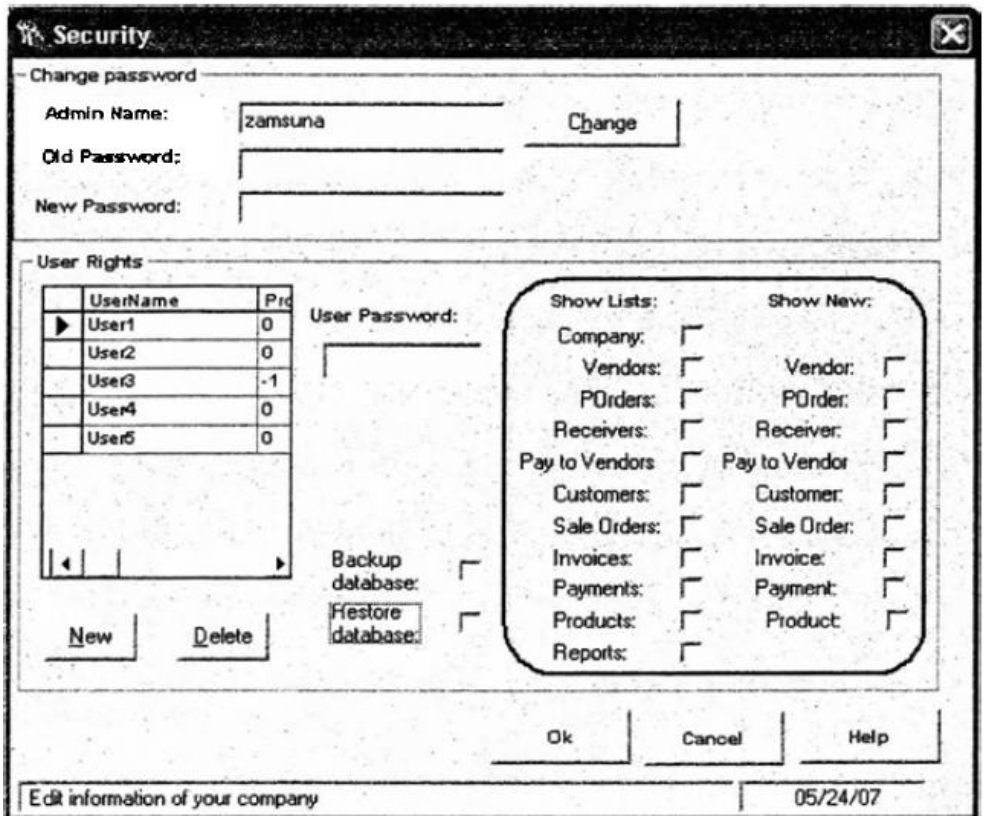

Figure 2: InExSy Security Form (Zamsuna, 2007)

3) System Inventory AVA (Wazir, 2006).

Figure 1.3 is SIA (System Inventory AVA) (Wazir, 2006). The SIA is a system for user use to view the ICT item or asset that they can borrow. User need to fill up the borrowing form to borrow the item but SIA does not provide the requestor's status on their request and this makes the requesting process incomplete where users have to check their request status manually.

Figure 3: System Inventory AVA (Wazir, 2006)

4) UMP ICT Equipment Booking

The UMP ICT Equipment Booking is use for UMP staff and student to booking the ICT equipment. The staff and student enter detail of the booking form and submit to the system. The details of the equipment that have been booking are entering by the PTMK staff. The staff and student can view the status of booking by online. After the booking is approving, staff and student should go to PTMK to take the equipment.

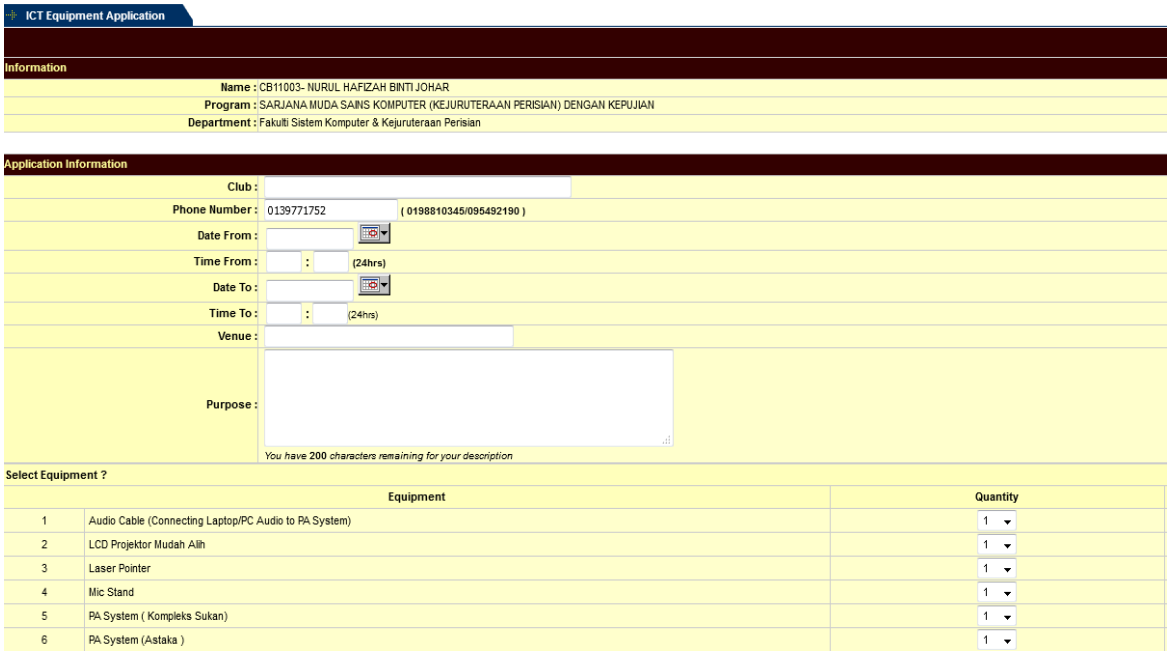

Figure 4: UMP ICT Equipment Booking

5) Free it asset management Software

Free software that use to manage IT asset including network devices, PC and software installations. Monitor the network, exchange, and licensing and it also can report on assets, inventory and network metrics.

Table 1: Comparisons between PAMS with existing system for asset management

System	PSM/PTA Asset Management System (PAMS)	MyHome Inventory system (MIS)	Inventory Execution System (InExSy)	UMP ICT Equipment Booking System	System Inventory AVA(SIA)	Free it asset management Software
Have tagging or not	YES	YES	YES	YES	YES	YES
Type of application	Stand-alone for barcode generator and web-based for borrowing.	Stand-alone	web-based	Web-based	Web-based	web-based
Type of database	MYSQL	Ms Access or Ms SQL.	Ms Access or Ms SQL.	-	MYSQL or Apache	-
Feature of Generate Report	Provide	Provide	Provide	Provide	Provide	Provide
Asset Borrowing Function	Provide	Not Provide	Not Provide	Provide	Provide	Not Provide

Status of borrowing/ booking	Online	Not Provided	Not Provided	Online	Manual	Not Provided
Availability status of the Asset/ Equipment	Provide	Not Provide	Not Provide	Not Provide	Not Provide	Not Provide

The PAMS is comparing to 4 others system based on the functionality of the system. For first function is the system is provide Feature of Generate Report or not. PAMS and others system provide this feature. This function is important because if the system not provide a function of generate report, it make process to manage the asset or item become difficult.

Others function is Asset Borrowing Function. Not all the system above provides this function. With this function, it can make the PAMS user easy to borrow the assets. Status of borrowing booking and asset availability function is also important. PAMS user not need to go to the lab for know the status of their borrowing, all the status will be by online. Other than that, PAMS user also can know the asset that they want to borrow is available or not by seeing the availability status of assets that had been provided by PAMS.

1.3. Current System and its Limitation

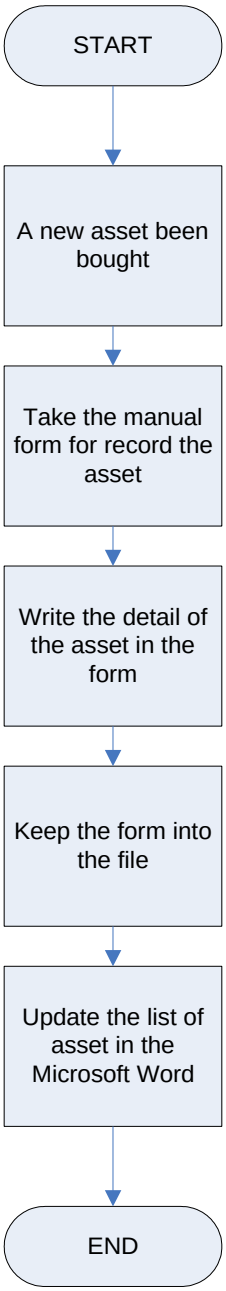

Figure 5: Flowchart of Asset Management for Current System

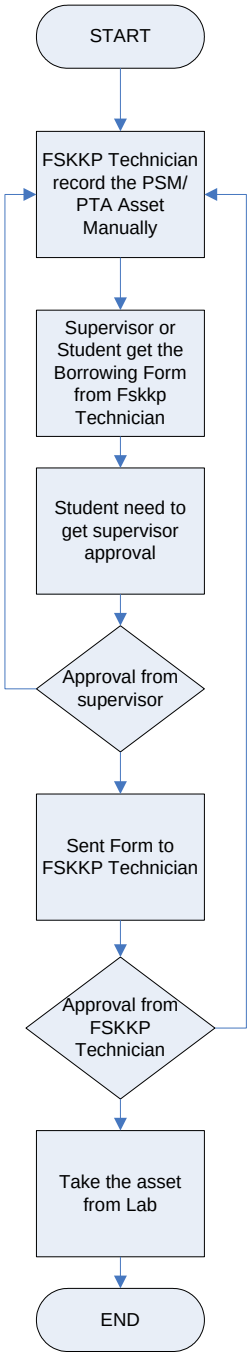

Figure 6: Flowchart of Asset Borrowing for Current System

Currently all the PSM/PTA asset process is managed manually where the technicians of FSKKP have to fills up respective forms to record the assets. Apart from that, students and PTA/PSM supervisors have to get ‘BorangPinjamanPeralatan PSM FSKKP’ from the technicians and fill up the form to borrow asset or equipments from faculty and then submit the form to the technicians or PSM/PTA person in charge who will process the request. Therefore a computerized system will built to replace the current one. The system is online system to ease the lecturer to make the request or borrowing and technician to process the request.

The limitations for this current system are:

1) Process flow for borrow assets too complicated.
2) The asset tagging in improper way.
3) The data for asset and borrowing not proper kept.

1.4. Terminology

Table 2: List of terminology

CSV	comma separated value
DML	Data Manipulate Languge
FSKKP	'FakultiSistemKomputerdanKejuruteraanPerisian' or Faculty of Computer System and Software Engineering
ICT	1) *Information and Communication Technology*
InExSy	Inventory Execution System
MIS	My Home Inventory system
PSM	ProjekSarjanaMuda
PTA	ProjekTahunAkhir
RAD	Rapid Application Development
SIA	System Inventory AVA
SQL	Structured Query Language
UMP	Universiti Malaysia Pahang

1.5. Method of Approach

Table 3: Comparison between Methodologies

Model	Sources of method	Stages/phase	Scenario
Systems development life-cycle(SDLC)	(Wikipedia, 2013)	5 phase consist of requirement analysis, design, implementation, testing, evaluation	When want to build a high quality system that meets or exceeds customer expectations.
	(Wiras, 2008)	4 phase consist of Planning, Analysis, Design, Implementation	If the system is not big and complex and have a fixed requirement.

	(AbdouIllia, 2013)	4 stages consist of System Planning and Selection, System Analysis, Systems Design, Systems Implementation and Operation.	If the system is not big and complex and have a fixed requirement.
RAD(Rapid Application Development)	(Konstantinou, 2013)	4 stages that consist of requirement planning, user design, construction, implementation	When want to build a quality system in a fast time.
	(Martin , 2013)	4 stages that consist of requirement planning, user design, construction, implementation	When want to build a fast, efficient, accurate program and/or system development and delivery.